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AFGL-TR-80-0370

USER GUIDE FOR INTERACTIVE APPLICATION PROGRAM
(I.A.P.)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Interactive Application Program, which will be referred to by IAP, has been designed to generate a BATCH job (consisting of a control card record and data input record) reporting on the DMSP data base and/or in copying part of the data base. The BATCH job is necessary because the data base is on several tapes which cannot be hung interactively. The respective reporting and copying modules are described herein.

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C O N T E N T S

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SECTION 1

1.0   Introduction

The Interactive Application Program, which will be referred to as
IAP, has been designed to generate a BATCH job (consisting of a control
card record and data input record) reporting on the DMSP data base and/or
in copying part of the data base. The BATCH job is necessary because the
data base is on several tapes which cannot be hung interactively. The
respective reporting and copying modules are described later.

The data base consists of ephemeris and channel count data record-
ed by several satellites as they circle the earth. Each calendar month
of each respective satellite is stored as one file on a multi-file tape
with the seven letter nomenclature MMMYYSS (M= Month, Y=Year, S=Satellite)
e.g., FEB80F2. Approximately seven months of data are on a tape. The
whole data base is contained on five tapes.

By using the IAP the many desired plots or listings of the data
base can be obtained quite easily by anyone typing in responses to the IAP.
This will reduce the need for any programming effort and will allow the
user to directly run a job on the computer with a minimum clerical effort.

Before any attempt is made to use the IAP, this user guide should
be read thoroughly. This guide will provide the user with the necessary
information needed for correctly and effectively using the IAP. It also
provides the user with remedies for known problems.

SECTION 2

2.0 General Information

This section will describe what the user should have with him/her before attempting to use the IAP.

2.1 Mandatory Prerequisites

In order to use the IAP, the user has to LOGIN at an AFGL intercom terminal. To do this, the user needs both an intercom user name and password.

The user must know exactly what processing options are to be performed forwhich data files. (A data file is a month of data for one satellite). The next section will give specific information needed for each processing option.

The user must in no way tamper with the IAP itself. If maintenance or a correction to the IAP is needed this will be handled by Bedford Research Associates.

2.2 Selecting a Processing Option

The user should organize his/her processing in sections by data files. Do all processing options for one data file before selecting a different data file. This will eliminate the possibility of unloading and then loading the same tape.

2.2.1 "Counts" Option

This option will print out location blocks and channel counts within specified time intervals.

The time intervals are defined by both the day of the month and a beginning and ending time. Organize your requests by day (i.e., you want to process all desired time intervals for one day before selecting another day. The time intervals for a particular day should be in ascending order).

2.2.2 "Flux" Option

This option will calculate and plot the flux output for specified days.

2.2.3 "Copy" Option

This option makes an exact copy of the packed data on a permanent file for specified days.

The time intervals are defined by a beginning and ending day. What is also needed for this option is a user's name who has permanent file space permission on the CDC 6600.

2.2.4 "Tape" Option

This option puts a data file of packed data, that has been created by Bedford Research Associates, on a magnetic tape so that data file can be used for other processing options.

The user must have previously received verification of a created data file from Bedford Research Associates and also notify Bedford Research Associates when the data file has been put on a magnetic tape.

2.3   Starting the Interactive

To start the IAP, the user must first "LOGIN" at an AFGL intercom terminal. Then just follow the following simple procedure: (underlined parts are what the user types in; parts contained in the boxes are only printed out using full prompting).

COMMAND-attach,abc,hardyprocedure,id=dechichio,mr=1.

 PF CYCLE NO. = 001 (footnote - 1)

COMMAND-begin,hardy,abc

 PF CYCLE NO. = 029 (footnote - 1)

 PF CYCLE NO. = 002 (footnote - 1)

DO YOU WANT TO HAVE FULL PROMPTING OR SHORT VERSION?

TYPE IN THE WORD FULL OR SHORT —— full (footnote - 2)

```
YOU ARE ABOUT TO CREATE A JOB THAT WILL
GENERATE HARDY APPLICATION JOBS TO BE
BATCHED INTO THE SYSTEM.


IS THIS WHAT YOU WANT? (YES OR NO) yes   (footnote - 3)
```

WILL YOU BE USING THE "TAPE" OPTION
DURING THIS PROCESSING? (YES OR NO) no

WILL THE "TAPE" OPTION BE THE ONLY PROCESSING
YOU WILL DO? (YES OR NO) yes   (footnote - 18)

DO YOU WISH TO SEE A LIST OF THE FILES THAT HAVE
BEEN PROCESSED AND WHAT TAPES THEY ARE ON? (YES OR NO) yes
                                        (footnote - 4)

CC4272	LABEL 1 = AUG79F4
CC4219	LABEL 1 = MAR79F2

```
                 WHAT TYPE OF PROCESSING DO YOU WISH TO DO?

     TASK                              TYPE IN


     ----                              -------


     LIST OF COUNTS                    COUNTS

     FLUX PLOTS                        FLUX

     COPY SELECTED DAYS
     OF PACKED DATA TO
     PERMANENT FILE                    COPY

     COPY FULL MONTH                        .
     OF PACKED DATA
     FROM DISK PACK
     TO TAPE                           TAPE
```

TYPE OF PROCESSING DESIRED ---

SECTION 3

3.0   "Counts" Option

The following procedure is an example of what the IAP does when
the "Counts" Option is chosen.

```
        PLEASE TYPE IN THE FOUR
NUMBERS THAT INDICATE WHICH CC TAPE YOU WISH TO PROCESS.
```

TAPE=CC4272

```
            TAPE REQUESTED IS CC4272.
IS THIS CORRECT?   (YES OR NO) yes     (footnote - 5)

        PLEASE TYPE IN SEVEN CHARACTER
NOMENCLATURE FOR DATE AND SATELLITE DESIRED


        FOR EXAMPLE: IF YOU WISH DATA FOR
JANUARY 1980 FOR SATELLITE F2, YOU TYPE IN :JAN80F2.
MONTH IS THREE CHARACTERS
YEAR AND SATELLITE ARE TWO CHARACTERS EACH
```

TYPE IN DESIRED LABEL ---aug79f4

```
        LABEL REQUESTED IS AUG79F4.
IS THIS CORRECT?    (YES OR NO) yes     (footnote - 6)

        PLEASE TYPE IN THE DAY NUMBER OF THIS MONTH YOU DESIRE,
IT MUST BE A TWO DIGIT NUMBER
THEREFORE IF YOU WANT DAY 9 TYPE IN: 09.
```

DAY NUMBER YOU DEISRE ---10

```
        PLEASE TYPE IN BEGINNING TIME OF PROCESSING
FORMAT OF INFORMATION TO BE TYPED IN IS HHMMSS
```

BEGINNING TIME=000000.

```
    PLEASE TYPE IN ENDING TIME OF PROCESSING IN SAME
FORMAT AS BEGINNING TIME.
```

ENDING TIME=240000

DO YOU WISH TO DO ANY MORE "COUNTS"
PROCESSING FOR ANY OTHER TIMES FOR DAY 10?
(YES OR NO) no   (footnote -7)

DO YOU WISH TO DO ANY MORE "COUNTS"
PROCESSING FOR ANOTHER DAY FOR AUG79F4?
(YES OR NO) no   (footnote - 8)

DO YOU WISH TO DO ANOTHER TYPE OF
PROCESSING FOR FILE :AUG79F4? (YES OR NO) no
(footnote - 9)

DO YOU WISH TO DO ANY MORE "COUNTS"
PROCESSING FOR ANOTHER MONTH OF DATA ON TAPE
CC4272? (YES OR NO) no (footnote 10)

DO YOU WISH TO DO ANOTHER TYPE OF
PROCESSING FOR ANY FILES ON CC4272?
(YES OR NO) no   (footnote - 9)

DO YOU WISH TO DO ANYMORE "COUNTS"
PROCESSING? (YES OR NO) no (footnote - 11)

DO YOU WISH TO DO ANYMORE PROCESSING?
(YES OR NO)   (footnote - 12)

4.0 "Flux" Option

The following procedure is an example of what the IAP does when the "flux" option is chosen.

```
        PLEASE TYPE IN THE TYPE OF FLUX
PLOTTING YOU WISH TO DO. TYPE IN INK
OR MICROFICHE
```

TYPE OF PLOTTING ---- <u>Microfiche</u>

```
        PLEASE TYPE IN THE FOUR NUMBERS THAT
INDICATE WHICH CC TAPE YOU WISH TO PROCESS.
```

TAPE=CC<u>4219</u>

```
        TAPE REQUESTED IS CC4219.
IS THIS CORRECT? (YES OR NO) yes   (footnote - 5)

        PLEASE TYPE IN SEVEN CHARACTER
NOMENCLATURE FOR DATE AND SATELLITE DESIRED.

        FOR EXAMPLE: IF YOU WISH DATA FOR
JANUARY 1980 FOR SATELLITE F2, YOU TYPE IN :JAN80F2.
MONTH IS THREE CHARACTERS
YEAR AND SATELLITE ARE TWO CHARACTERS EACH
```

TYPE IN DESIRED LABEL ---mar79f2

```
        LABEL REQUESTED IS MAR79F2.
IS THIS CORRECT? (YES OR NO) yes    (footnote - 6)

        PLEASE TYPE IN THE BEGINNING DAY NUMBER OF
THIS MONTH THAT YOU DESIRE.
IT MUST BE A TWO DIGIT NUMBER.
THEREFORE IF YOU WANT DAY 9 TYPE IN: 09.
```

BEGINNING DAY NUMBER ---<u>12</u>

```
        PLEASE TYPE IN THE ENDING DAY NUMBER OF
THIS MONTH THAT YOU DESIRE,
IN THE SAME FORMAT AS THE BEGINNING DAY.
```

ENDING DAY NUMBER ---<u>13</u>

DO YOU WISH TO DO ANYMORE "FLUX"
PROCESSING FOR ANY OTHER SPAN OF DAYS
FOR MAR79F@?   (YES OR NO) no   (footnote - 8)

        DO YOU WISH TO DO ANY OTHER TYPE
OF PROCESSING FOR FILE :MAR79F2?
(YES OR NO) no   (footnote 9)

        DO YOU WISH TO DO ANYMORE "FLUX"
PROCESSING FOR ANOTHER MONTH OF DATA ON TAPE
CC4219?   (YES OR NO) no   (footnote - 10)

        DO YOU WISH TO DO ANY OTHER TYPE
PROCESSING FOR ANY FILE ON CC4219?
(YES OR NO) no   (footnote - 9)

        DO YOU WISH TO DO ANY MORE "FLUX"
PROCESSING?   (YES OR NO) no   (footnote - 11)

        ----IMPORTANT----

****

THE PLOTS PRODUCED BY THIS JOB WILL BE AT
CENTRAL SITE UNDER THE NAME HOXIE.
MAKE SURE YOU PICK UP THE CORRECT PLOT.

****

        DO YOU WISH TO DO ANYMORE PROCESSING?
(YES OR NO)   (footnote - 12)

SECTION 5

5.0   "Copy" Option

The following procedure is an example of what the IAP does when the "Copy" option is chosen.

```
  ----IMPORTANT----

  ******************************

EACH DAY OF PACKED DATA IS APPROXIMATELY
2000 PRU'S, THEREFORE PLEASE MAKE SURE
YOU HAVE ENOUGH FOR THE FILE THIS JOB
WILL CREATE!
  ******************************
```

```
      PLEASE TYPE IN THE FOUR NUMBERS
THAT INDICATE WHICH CC TAPE YOU WISH TO
PROCESS.
```

TAPE-CC4219

```
      TAPE REQUESTED IS CC4219.
IS THIS CORRECT? (YES OR NO) yes   (footnote - 5

      PLEASE TYPE IN SEVEN CHARACTER
NOMENCLATURE FOR DATE AND SATELLITE DESIRED.

      FOR EXAMPLE: IF YOU WISH DATA FOR JANUARY
1980 FOR SATELLITE F2, YOU TYPE IN :JAN80F2.
MONTH IS THREE CHARACTERS
YEAR AND SATELLITE ARE TWO CHARACTERS EACH
```

TYPE IN DESIRED LABEL ----mar79f2

```
      LABEL REQUESTED IS MAR79F2.
IS THIS CORRECT? (YES OR NO) yes   (footnote - 6)

      PLEASE TYPE IN THE BEGINNING DAY NUMBER OF
THIS MONTH THAT YOU DESIRE.
IT MUST BE A TWO DIGIT NUMBER.
THEREFORE IF YOU WANT DAY 9 TYPE IN: 09
```

BEGINNING DAY NUMBER ---25

```
      PLEASE TYPE IN THE ENDING DAY NUMBER OF THIS
MONTH THAT YOU DESIRE,
IN THE SAME FORMAT AS THE BEGINNING DAY.
```

ENDING DAY NUMBER ---26

```
┌────────────────────────────────────────────────┐
│           PLEASE TYPE IN THE ID YOU WANT FOR THE │
│ PERMANENT FILE (2526MAR79F2) THAT THIS JOB       │
│ CREATES.                                         │
│                                                  │
└────────────────────────────────────────────────┘
```

ID=valid-id   (footnote - 13)

```
┌────────────────────────────────────────────────┐
│           PLEASE TYPE IN THE NUMBER OF CHARACTERS │
│ IN VALID-ID                                      │
│                                                  │
└────────────────────────────────────────────────┘
```

#CHARACTERS=8

```
┌────────────────────────────────────────────────┐
│           THE ID REQUESTED IS VALID-ID.          │
│ THE PERIOD SHOULD BE RIGHT AFTER THE LAST        │
│ CHARACTER OF THE ID.                             │
│ IS THIS ID CORRECT? (YES OR NO) yes              │
│                   (footnote - 14)                │
└────────────────────────────────────────────────┘
```

```
              ----IMPORTANT----
         ********************************

THIS JOB WILL CREATE A PERMANENT FILE
THE NAME OF THE PERMANENT FILE = 2526MAR79F2 ID=VALID-ID
THIS FILE CONTAINS PACK DATA FOR DAYS 25 to 26
FROM FILE MAR79F2
         ********************************

         DO YOU WISH TO DO ANYMORE PROCESSING?
(YES OR NO)    (footnote - 12)
```

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SECTION 6

6.0   "Tape" Option

     The following procedure is an example of what the IAP does when the "tape" option is chosen.

```
        PLEASE TYPE IN THE NAME OF THE DISK
PACK THAT HAS THE PACKED DATA ON IT
```

DISK PACK NAME---   (footnote - 17)

```
        PLEASE TYPE IN THE FOUR NUMBERS THAT
INDICATE WHICH CC TAPE YOU WISH TO PUT THE
PACKED DATA ON.
```

TAPE=CC1234   (footnote - 15)

```
        TAPE REQUESTED IS CC1234.
IS THIS CORRECT?  (YES OR NO) yes    (footnote - 5

        PLEASE TYPE IN SEVEN CHARACTERS
NOMENCLATURE FOR DATE AND SATELLITE DESIRED.

        FOR EXAMPLE: IF YOU WISH DATA FOR
JANUARY 1980 FOR SATELLITE F2, YOU TYPE IN
:JAN80F2.
MONTH IS THREE CHARACTERS
YEAR AND SATELLITE ARE TWO CHARACTERS EACH
```

TYPE IN DESIRED LABEL ---dec84f5

```
        LABEL REQUESTED IS DEC84F5.
IS THIS CORRECT?    ( YES OR NO) yes (footnote - 6)
```

        DO YOU WISH TO DO ANYMORE PROCESSING?
(YES OR NO)   (footnote - 12)

7.0   Ending the Interactive

When the user has finished requesting all the processing he/she desires, just answer "NO" to the prompt "DO YOU WISH TO DO ANY MORE PROCESSING?   (YES OR NO)".

At this point the IAP prompts for an option to put all your printed output on microfiche. This is provided because some of the processing options can produce large amounts of output. Therefore if the user wishes to condense his/her output to a more convenient size, it can be put on microfiche.

The following procedure is an example of what the IAP does when "NO" is responded to the above mentioned prompt.

```
        IF YOUR PRINTED OUTPUT FOR THIS JOB
IS GOING TO BE LARGE YOU MIGHT WANT TO
HAVE IT ON MICROFICHE.
```

DO YOU WISH TO HAVE YOUR PRINTED OUTPUT ON
MICROFICHE?   (YES OR NO) <u>yes</u>

          ----IMPORTANT----

****

THE MICROFICHE OF YOUR PRINTED OUTPUT WILL
BE AT CENTRAL SITE UNDER THE NAME DECHICHIO.
MAKE SURE YOU PICK UP THE CORRECT FILM!
          (footnote - 16)
****

WHEN THE WORD COMMAND IS PRINTED OUT TYPE
IN: BATCH,XINPUT,AC.
UPON DOING THIS YOUR PROGRAM WILL BE IN
THE COMPUTER. THE JOB NAME IS COZZ4 AND THE
OUTPUT WILL BE AT TERMINAL AC.
PLEASE WAIT FOR THE WORD COMMAND
****

EOI ENCOUNTERED IMMEDIATELY BY COPYCF
EOI ENCOUNTERED IMMEDIATELY BY COPYCF
EOI ENCOUNTERED IMMEDIATELY BY COPYCF
EOI ENCOUNTERED IMMEDIATELY BY COPYCF
EOI ENCOUNTERED IMMEDIATELY BY COPYCF
COMMAND-<u>BATCH,X,INPUT,AC</u>

SECTION 8

8.0 Retrieving Output

Normal printed output should be picked up at terminal AC. With the first five characters of the banner being COZZ4.

If you put your output on microfiche this should be picked up at Central site. Ask for microfiche under the name DECHICHIO. The title on the microfiche will be "Printed Output".

If you did flux processing, the plots should be picked up at Central site. Ask for them under the name HOXIE.

When picking up any type of output, make sure that you pick up the correct items. If you find you picked up an incorrect item, it must be returned to the place where you picked it up.

SECTION 9

9.0 When a Problem Happens

Since the IAP is new, we do not know nor can be anticipate all problems that will arise. This section will explain what to do when an anticipated problem happens. As new problems are brought to our attention they will be either permanently corrected or addendums will be added to this user guide with further instructions. Therefore, better maintenance of the IAP will result if all problems whose solution the user can't find in this guide are brought to the attention of Bedford Research Associates.

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There are two places that a problem can stem from; the first is the IAP itself and the second is from the batch job that the IAP creates. The first problem is discussed in Section 9.1, while the second problem is discussed in Section 0.2. Occasionally, a problem arises which cannot be solved from Section 9.1 or 9.2; this is discussed in Section 9.3.

9.1 A Problem With the IAP

The biggest problem with the IAP is the user entering incorrect responses. Most of the user's responses are checked for validity by the IAP and appropriate action is taken. For example, if it asks for a yes or no response and that is not what is given, it replies with an error message that says "INVALID RESPONSE" and prompts the user again for a yes or no.

The IAP is built to check for validity on most of the user's responses. If it finds an invalid response, it usually tells the user why it is invalid and reprompts for a correct response.

If the user cannot make the IAP work properly and wishes to stop it, do the following:

1) Wait for the IAP to prompt for a response.
2) Type in the following two characters: %A
3) When the word "COMMAND-" appears type in "LOGOUT"

At this point look through the section of the user's guide which explains what you were trying to do with the IAP. Looking over the example given, compare your responses to the example's responses. If you find the problem try running the IAP again. If the problem cannot be found, see Section 9.3.

9.2 A Problem With The Batch Job

Most of the programs that the BATCH job uses have error routines in them to check for invalid requests that are not picked up by the IAP. The error statements are usually self-explanatory. Compare the error message information with the information given to the IAP to discover the problem. If the problem cannot be found see Section 9.3.

If the BATCH job ran correctly but did not do what you wanted it to do, go over the information given to the IAP to determine the problem. If the problem cannot be found see Section 9.3.

There are many problems which are system oriented. This means that all responses to the IAP were correct, all parts of the BATCH job were correct, but something went wrong with the computer itself. If you feel this is the case, see Section 9.3.

9,3 Undefinable Problems

An undefinable problem is when a problem happens that the IAP cannot solve, the BATCH job cannot solve or the user cannot solve. At this point the following procedure should be taken:

1) If you are still LOGGED IN at an intercom terminal follow steps 1,2,3 in Section 9.1.

2) LOGIN to an intercom terminal.

3) Run the IAP for the same processing that caused the problem using FULL prompting.

4) If it was a system problem hopefully it will now be rectified.

5) If everything works alright it was a system error. If the user still has the problem, notify Bedford Research Associates.

10.0 Footnotes

1) The number after the equal sign may be any number between 1 and 999 inclusive.

2) I suggest you use FULL until you become quite familiar with the IAP.

3) If you answer "NO", the IAP stops.

4) Answering "YES" enables you to see what data files have already been produced. This is important when using FULL prompting because the IAP checks to make sure the file you want to process is on the tape you claim it is.

5) This prompting is in case you typed in the incorrect tape number. If you answer "NO" the IAP prompts for the tape number again.

6) This prompting is in case you typed in the incorrect label. If you answer "NO" the IAP prompts for the label again.

7) If you answer "YES" the IAP prompts for a new beginning time. This beginning time must be greater than the previous ending time.

8) If you answer "YES" to the IAP it prompts for a new day number.

9) If you answer "YES" the IAP prompts for a new processing option.

10) If you answer "YES" the IAP prompts for a new data file label.

11) If you answer "YES" the IAP prompts for a new tape number.

12) If you anser "YES" the IAP prompts for a new processing option. If you answer "NO" see Section 7.0: Ending The Interactive.

13) This ID must be a name that has permanent file space on the computer assigned to it.

14) This prompting is in case you typed in the incorrect ID name or the incorrect number of characters in the ID name. If you answer "NO" the IAP prompts for the ID again.

15) The tape chosen is checked to see if the maximum number of files allowed on that tape has already been reached. If so it will issue an error message.

16) This message is only printed out if "YES" is the response to the previous prompt.

17) The Disk Pack name will be a 6 character name that will be given to the user from Bedford Research Associates.

18) This prompt is only printed if the user replied "YES" to the previous prompt.